

**METHODS OF FORMING LaNiO_3 CONDUCTIVE LAYERS, FERRO-ELECTRIC
DEVICES WITH LaNiO_3 LAYERS, AND PRECURSOR FORMATION
SOLUTIONS**

ABSTRACT OF THE DISCLOSURE

Methods of forming lanthanum nickel oxide (LaNiO_3) layers with precursor formation solutions are disclosed, along with devices made from such solutions. Also disclosed are methods for making the formation solutions using lanthanum, nickel, and a diol. The present invention enables the manufacture of LaNiO_3 layers at low cost, with good resistivity properties, and a surface morphology suitable for interfacing to a ferro-electric material.